REMARKS

Status Summary

Claims 1-7 are pending in the present application. Claims 8 and 9 were previously canceled. With this Amendment, claims 1-4, 6 and 7 have been amended. Claim 5 has been canceled. Claims 10-25 have been added. Therefore, upon entry of this Amendment, claims 1-4, 6, 7, and 10-25 will still be pending.

Applicant submits that no new matter is injected into the application by way of the amendments. Support for the amendments can be found through the specification. For example, support can be found in the original Figures 10-14 and on pages 13-19 of the original specification. Reconsideration of the present application as amended based on the arguments set forth hereinbelow is respectfully requested.

Interview Summary

Applicant conducted a telephonic interview with Examiner Joseph D. Torres on February 18, 2009. Participating in the telephonic interview was applicant's attorney, David Sigmon. Applicant sincerely appreciates the time and consideration of Examiner Torres in agreeing to and participating in the telephonic interview. In the interview, the most recent Office Action and the independent claims were discussed. In particular, Examiner Torres explained the rejections and his view of the use of functional language. Applicant understands that no agreement was reached between the applicant and Examiner Torres during the telephonic interview.

Objections to the Claims

Claims 2-5 of the present application stand objected to as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant notes that claim 5 has been canceled. Regarding the other claims, applicant respectfully disagrees.

It is well settled that an applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought. (See MPEP § 2173.05.) As noted by the court in a seminal case regarding functional language, In re Swinehart, 439 F.2d 210, 160 USPQ 226 (CCPA 1971), a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought. A functional limitation is an attempt to define something by what it does, rather than by what it is. There is nothing intrinsically wrong with defining some part of an invention in functional terms. (See In re Swinehart, 439 F.2d at 212, 169 USPQ at 226.) Functional language does not, in and of itself, render a claim improper. (See In re Swinehart, 439 F.2d at 213, 169 USPQ at 226.) A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.

Claim 2 and 3, which depend from claim 1, recite that the IR memory stores data blocks dependent upon either an internal signal delay within the mobile station or upon the polling period of the data transmission channel and on the round trip delay, respectively . Thus, claims 2 and 3 further limit claim 1 by setting forth further structure

in the form of a configuration of the IR memory that is not required in claim 1. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. (See Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc., 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004).) Here, claims 2 and 3 clearly define a particular capability or purpose that is served by the IR memory recited in claim 1.

Regarding claim 4, claim 1 as amended recites that the size of the memory is dependent on the size of the second data resolution. Thus, claim 4 directly and explicitly imparts a limitation as to the actual size of the IR memory recited in claim 1.

Accordingly, in view of the above remarks and amendments, applicant respectfully submits that the objections to claims 2-4 should now be withdrawn.

Claim Rejection - 35 U.S.C. § 112

Claims 1-7 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement and the best mode requirement. Applicant notes that claims 1-4, 6 and 7 have been amended to be directed to an IR memory again. However, applicant respectfully disagrees with the Examiner's assertion that an EGPRS receiver as previously recited is not enabled or that the best mode was not disclosed.

The specification of the present application clearly describes an EGPRS receiver and its operation in more than enough detail for one of ordinary skill in the art to understand and employ it. Further, the invention of the present application centers

around an IR memory that is used in such an EGPRS receiver. The specification of the present application clearly describes how an IR memory is used in EGPRS receiver. Further, the specification clearly describes the inventive IR memory that is used in replace of the Prior Art IR memory. Thus, an EGPRS receiver as previously recited in claims 1-4, 6 and 7 is more than enabled for <u>one of ordinary skill in the art</u> by the specification of the present application.

Further, claims 1-4, 6 and 7 are also enabled because the functional language recited in claim 1 does not broaden the scope of the claim beyond what is disclosed in the specification.

Similarly, a best mode is provided for an EGPRS receiver in the present application. Again, the invention of the present application centers around an IR memory that is used in an EGPRS receiver. The components of such EGPRS receiver are described in the specification as they are used in the invention. The inventive IR memory is also described in detail in its best mode at the time of the invention. (See Specification, pages 8-10 and 12-18.) The specification also sets forth how the IR memory relates to the EGPRS receiver, the base station and the mobile station. (See Specification, pages 8, 12-13, 17 and 18.)

Thus, for the reasons given above, applicant respectfully submits that the rejections of claims 1-4, 6, and 7 under 35 U.S.C. § 112, first paragraph, should now be withdrawn.

Claims 1-7 stand rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. As before, applicant respectfully disagrees. According to MPEP §

2172.01, the use of a rejection for an omission of an essential element can be cited as a 35 U.S.C. § 112, first paragraph, enablement issue or a 35 U.S.C. § 112, second paragraph, issue relating to a failure to particularly point out and distinctly claim the invention.

Regarding 35 U.S.C. § 112, second paragraph, claim 1 and the claims that depend therefrom particularly point out and distinctly claim the invention by interrelating essential elements of the invention as defined by the applicant in the specification of the present application. The functional language in claim 1 sets forth how the first memory and the second memory are configured to operate and how that relates to the size of the IR memory. The claims clearly state how the IR memory is configured. The claims also provide a clear indication of what subject matter is claimed.

The Examiner contends that claim 1 does not recite structural elements which seems to suggest a 35 U.S.C. § 112, first paragraph, enablement issue. However, claim 1 clearly recites a first memory area and a second memory area. As amended claim 1 also sets forth that the size of the memory is directly related to the data resolutions used in reading the data blocks. Thus, claim 1 clearly sets forth structural elements. While the specification does not set forth the specific code used to configure the IR memory into a first and second memory area and used to configure it to operate in the specific manner set forth in claim 1, applicant is unaware that such disclosure is required for one of ordinary skill in the art to understand the invention or for the invention to be enabled.

Since claim 1 and the claims that depend therefrom are enabled and the invention is particularly pointed out and distinctly claimed, applicant is unclear what the Examiner contends to be the essential elements that are omitted.

It appears that the main contention that the Examiner has is that claims 1-4, 6, and 7 include functional language. The Examiner states in an authoritative manner that "the boundaries of the subject matter for an apparatus are made clear in terms of structure rather than function." Applicant is unaware of such a requirement. As stated above, there is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. (See In re Swinehart, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).) In re Swinehart sets forth that functional language within a claim can have three difficulties. First, the functional language may present a problem with definiteness by failing to provide a clear indication of what the subject matter is within the claim. (See In re Swinehart, 439 F.2d at 213, 169 USPQ at 226.) Second, the language can be so broad that it causes the claim to have a potential scope of protection beyond that which is justified by the specification disclosure. (See In re Swinehart, 439 F.2d at 213, 169 USPQ at 226.) The third difficulty can occur when the functional language renders the claim obvious or anticipated. For example, the function or property described cannot be inherently possessed by the prior art. (See In re Swinehart, 439 F.2d at 212-13, 169 USPQ at 226.) If a claim containing functional language avoids these difficulties, then it is permissible.

As set forth above, the language of claim 1 provides a clear-cut indication of the scope of the subject matter by defining the size of the IR memory based on the data

resolutions used by the first and second memory areas of the IR memory. Thus, claim 1 particularly points out and distinctly claims the subject matter which the applicant regards as the invention. The size of the IR memory is clearly and directly tied to the functional language set forth in claim 1 by the recited equation. The recited equation leaves no question as to the definiteness of the claim. One of ordinary skill in the art can easily determine what the claim covers.

Also, the language of claim 1 is not so broad that it causes the claim to have a potential scope of protection beyond that which is justified by the specification disclosure. The size of the IR memory is clearly and directly tied to the functional language set forth in claim 1 by the recited equation. The recited equation along with the functional language clearly limits the scope of the claim to what is disclosed in the specification of the present application.

Finally, as will be addressed below, the cited art neither renders obvious nor anticipates claim 1 of the present application. The cited art does not disclose, teach or suggest minimizing the size of the IR memory based on using different data resolutions for different data blocks in the IR memory. Further, such features of the IR memory in the cited art are not inherent therein. As explained in the specification in detail, the IR memory of the cited art works quite differently than the IR memory claimed in claim 1 and therefore must be larger in size.

Thus, at least for the reasons set forth above, the functional language in claim 1 and the claims that depend therefrom is proper since claim 1 avoids the difficulties for such functional language as set forth in In re Swinehart.

Accordingly, in view of the above remarks and amendments, applicant respectfully submits that the rejections of claims 1-4, 6, and 7 under 35 U.S.C. § 112, second paragraph, should now be withdrawn.

Claim Rejection - 35 U.S.C. § 102

Claims 1-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by what the Examiner labels as "Applicant's Admitted Prior Art" in Figures 5 and 6 of the present application (hereinafter, the "Art"). This rejection is respectfully traversed.

Independent claim 1 of the present application, as amended, recites an IR memory for an EGPRS receiver for a mobile station. The EGPRS receiver receives data from a base station via a data transmission channel and measures a burst data transmission quality. Claim 1 recites that the IR memory includes a first memory area that buffer-stores a specific number of data blocks with a predetermined first data resolution. Claim 1 also recites that the IR memory includes a second memory area that buffer-stores erroneously decoded data blocks. The second memory area stores the erroneously decoded data blocks with a second data resolution, which is lower than the first data resolution. Additionally, claim 1 recites that the second data resolution with which the erroneously decoded data blocks are stored in the second memory area of the IR memory is set adaptively between different resolution levels dependent on a measured burst data transmission signal quality. Further, claim 1 recites that the memory size for the IR memory is:

$$S_{IR} = 3 \times 204 \times \{2 \times (32 + N_{TS} \times 12) \times R_2 + X_D \times R_1\} \text{ bits}$$

where:

S_{IR} = the memory size;

N_{TS} = a number of bundled time slots TS/TDMA frame;

X_D = the internal signal propagation time of the mobile station;

R_1 = the first data resolution as measured in bits;

R_2 = the highest second data resolution as measured in bits; and

R_1 = 5 bits, and $R_1 > R_2$.

Applicant respectfully submits that the Art does not anticipate independent claim 1 or the claims that depend therefrom. In particular, the Art does not disclose all the features of independent claim 1.

The Art discloses an IR memory. The IR memory according to the Art comprises a first memory area SB_A and a second memory area SB_B. The first memory area SB_A serves for buffer-storing a specific number of RLC data blocks with a predetermined data resolution R. The second memory area SB_B within the IR memory serves for storing the erroneously decoded RLC data blocks. In the case of the IR memory according to the Art, the soft outputs of the channel equalizer are stored in the two memory areas SB_A and SB_B with the same data resolution R.

The Art does not disclose each and every feature as recited in claim 1. For example, the Art does not disclose a first memory area configured to buffer-store a specific number of data blocks with a predetermined first data resolution and a second memory area configured to store the erroneously decoded data blocks with a second data resolution, which is lower than the first data resolution. The Art only discloses that the first memory area SB_A and second memory area SB_B use the same data resolution

R to store the outputs. The Art also does not disclose that the second data resolution with which the erroneously decoded data blocks are stored in the second memory area of the IR memory is configured to be set adaptively between different resolution levels dependent on a measured burst data transmission signal quality. The Art does not disclose any second data resolution. Further, the Art does not disclose that the size of the IR memory is dependent upon first and second data resolutions as recited in claim 1. Thus, the Art does not disclose or teach all the features set forth in claim 1.

Therefore, for the reasons set forth above, claim 1 is not anticipated by the Art. Claims 2-4, 6 and 7 depend from claim 1. Therefore, claims 2-4, 6 and 7 are also not anticipated by the Art. Accordingly, applicant respectfully submits that the rejections of claims 1-7 under 35 U.S.C. § 102(b) should be withdrawn and the claims allowed at this time.

New Claims

New claims 10-24 have been added by this amendment as indicated above. Claim 10 depends from claim 1 and is thus allowable. Claims 11-24 are method claims drawn to the operation of an IR memory. The cited art does not disclose, teach, or suggest each and every feature of claims 11-24 in a manner that would render these claims *prima facie* obvious. Thus, these claims are allowable over the cited references. Applicant respectfully submits that no new matter has been introduced.

CONCLUSION

In light of the above Amendments and Remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Amendments and Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. **50-0426**.

Respectfully submitted,

JENKINS, WILSON, TAYLOR & HUNT, P.A.

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Enclosures: Replacement Drawings

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